

Biblio.
Patents

9/5/1 (Item 1 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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014822729

WPI Acc No: 2002-643435/200269

XRAM Acc No: C02-181755

Promoting axonal growth in a neural cell and treating traumatic brain injury involves contacting the neural cell with lithium or its salt

Patent Assignee: SCHEPENS EYE RES INST (SCHE-N)

Inventor: CHEN D F; CHEN G; HUANG X

Number of Countries: 022 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|--------------|------|----------|---------------|------|----------|----------|
| WO 200263959 | A1 | 20020822 | WO 2002US3722 | A | 20020208 | 200269 B |

Priority Applications (No Type Date): US 2001289990 P 20010510; US 2001267832 P 20010209; US 2001272617 P 20010301

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200263959 A1 E 82 A01N-037/18

Designated States (National): AU CA JP

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Abstract (Basic): WO 200263959 A1

NOVELTY - Promoting axonal growth in a neural cell involves contacting the neural cell with lithium or its salt.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) A composition comprising lithium or its salt and an agent that creates an environment favorable for axonal growth (I) and a carrier;
(2) A vehicle for administration of the composition to the subject;

(3) Method (m) for stimulating axon growth of neural cell (C') (preferably obtained from a subject and differentiated from stem cell) in vitro involving contacting the neural cell with lithium or its salt such that neuronal cell grows at least one axon;

(4) Method (m1) for treating a subject that has suffered a traumatic injury in which nerve cell injury has occurred by administering (C') to the subject;

(5) Method (m2) for treating a subject for a state including diminished potential axonal growth involving administering (C') with at least one axon back into the subject;

(6) Method (m3) for preventing neural cell degeneration involving contacting the neural cell with an agent (A') (preferably a nucleic acid encoding the Bcl-XL protein or its portion or the Bcl-XL protein) that increases the amount of Bcl-XL in the neural cell;

(7) Treating a neurodegenerative disease in a subject involving contacting the neural cells of the subject that are undergoing neurodegeneration with (A'); and

(8) Treating a subject having a partial or complete sectioning of the spinal cord or nerve involving providing the ends of the spinal cord or nerve within less than about 100 microm distance from each other at the site of sectioning of the spinal cord or nerve, and contacting at least one cell from the spinal cord or nerve with (A') (preferably lithium or its salt).

ACTIVITY - CNS-Gen.; Ophthalmological; Tranquilizer; Nootropic; Neuroprotective; Antiinflammatory; Hemostatic; Antiparkinsonian; Vulnerary; Cytostatic; Virucide; Anti-diabetic.

MECHANISM OF ACTION - bcl (preferably bcl-2) Family member modulator; Axonal growth promoter; Neural cell (including central nervous system (CNS) neural cell and peripheral neural cell, preferably spinal cord nerve cell and optic nerve cell) regeneration promoter; Neural cell degeneration inhibitor
USE - For promoting axonal growth in a neural cell (including central nervous system (CNS) neural cell and peripheral neural cell); for treating a subject that has suffered a traumatic injury in which nerve cell injury (preferably spinal cord nerve cell, peripheral nervous system nerve cell and optic nerve cell injury) has occurred; for treating a subject for a state involving

diminished potential axonal growth, such as a CNS disorder e.g. glaucoma; for stimulating axon growth of neural cell (preferably obtained from a subject and differentiated from stem cell) in vitro; for preventing neural cell degeneration; for treating a neurodegenerative disease in a subject; and for treating a subject having a partial or complete sectioning of the spinal cord or nerve (all claimed). The diminished potential for axonal growth include neurological conditions derived from injuries of the spinal cord or **compression** of spinal cord (e.g. acute, subacute, or chronic injury to the nervous system, including traumatic injury, chemical injury, vascular injury or blockage, infectious or inflammatory injury such as caused by transverse myelitis, a tumor induced injury (primary or metastatic)) and complete or partial trisection of the spinal cord (caused by e.g. fractures of the vertebrae, dislocation of vertebrae, penetrating wounds, partial severance of the cord, epidural hemorrhage, spinal subdural hematoma, or damage induced by a blow on the head or a fall on the feet), and intramedullary injury (caused by direct pressure on the passage of the cord or the passage of the pressure wave through the cord, laceration of the cord by bone, rupture of the blood vessel during the passage of a pressure wave through the cord with a hemorrhage into the cord and intramedullary bleeding and hematoma formation caused by rupture of a weakened blood vessel). Also useful in the recovery of subjects with a herniated disks, hyperextension-flexion injuries to the cervical spine and cervical cord and cervical spondylosis; movement disorders, disorders of brain e.g. the brain stem and its function, brain damage caused by stroke, bleeding trauma, peripheral neuropathies (e.g. trauma, diabetes mellitus, infarction of peripheral nerves, herniated disks, epidural masses and postinfectious polyneuritis). The neurodegenerative diseases include Pick's disease, progressive aphasia without dementia, supranuclear palsy, Shy-Drager syndrome, Freidreich's ataxis, olivopontocerebellar degeneration, vitamin E deficiency, spinocerebellar degeneration, Roussy-Levy syndrome, hereditary spastic ataxia or paraparesis, disorders of spinal cord (amyotrophic lateral sclerosis, spinal muscular atrophies, multiple sclerosis), neural degeneration induced by vitamin B12 deficiency, associated with HIV infection or HTLV-I infection), Alzheimer's disease, Parkinson's disease, cancer, and viral infections; for the stimulation of growth of endogenous, **implanted** or transplanted **neural** tissue.

ADVANTAGE - The method promotes and stimulates the axonal growth of the neuronal cells by modulating the expression of bcl (preferably bcl-2) family member protein. The method is useful for the treatment of neurons both the descending (e.g. corticospinal tract) and ascending tract (e.g. the dorsal column-medial lemniscal system, the lateral spinothalamic tract, and the spinocerebellar tract) of the spinal cord in the reestablishment of appropriate spinal connections.

pp; 82 DwgNo 0/11

Title Terms: PROMOTE; AXONAL; GROWTH; NEURAL; CELL; TREAT; TRAUMA; BRAIN; INJURY; CONTACT; NEURAL; CELL; LITHIUM; SALT

Derwent Class: B04

International Patent Class (Main): A01N-037/18

International Patent Class (Additional): A01N-059/00; A61K-033/00;

A61K-038/00; A61K-038/24; A61K-038/27; A61K-039/00; A61K-049/00;

C07K-001/00; C07K-014/00; C07K-017/00

File Segment: CPI

9/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014603998 **Image available**

WPI Acc No: 2002-424702/200245

XRPX Acc No: N02-333885

Neural prosthesis for implantation within eye, includes microchannels which are located within foldable substrate supporting integrated circuits/electrode array, for expanding substrate
Patent Assignee: MASSACHUSETTS INST TECHNOLOGY (MASI)

Inventor: RIZZO J; SHIRE D; WYATT J; SHIRE D B; WYATT J L

Number of Countries: 022 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|--------------|------|----------|----------------|------|----------|----------|
| US 6368349 | B1 | 20020409 | US 2000717738 | A | 20001121 | 200245 B |
| WO 200241814 | A2 | 20020530 | WO 2001US43241 | A | 20011120 | 200245 |
| WO 200241754 | A2 | 20020530 | WO 2001US43343 | A | 20011119 | 200245 |

Priority Applications (No Type Date): US 2000717738 A 20001121

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|--|------|--------|-------------|--------------|
| US 6368349 | B1 | 6 | A61F-002/16 | |
| WO 200241814 | A2 E | | A61F-009/00 | |
| Designated States (National): CA JP | | | | |
| Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR | | | | |
| WO 200241754 | A2 E | | A61B-000/00 | |
| Designated States (National): CA JP | | | | |
| Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR | | | | |

Abstract (Basic): US 6368349 B1

NOVELTY - The microchannels (18) are arranged within the foldable substrate for expanding the substrate. The integrated circuits/electrode array (16) are supported by the substrate.

USE - Neural prosthesis for implantation within eye for providing sufficient vision to visually handicapped people.

ADVANTAGE - The foldable substrate is the expanded state provides close opposition between the electrode array and the neural tissue, thereby providing sufficient semiconductor area to implement the power control and driving functions necessary for its operation without cutting or dragging on the retina. The use of biocompatible materials and sufficiently low currents, avoids chemical and electrochemical toxicity. The prosthesis is designed such that it can be easily inserted through a narrow incision in the sclera. If the surgeon desired to reduce or increase the rigidity of the prosthesis, gas or fluid used to inflate the prosthesis is simply added or removed.

DESCRIPTION OF DRAWING(S) - The figure shows a plan view of the inflatable prosthesis.

Integrated circuits/electrode array (16)

Microchannels (18)

pp; 6 DwgNo 1/3

Title Terms: NEURAL; PROSTHESIS; IMPLANT; EYE; MICROCHANNEL; LOCATE; FOLD;

SUBSTRATE; PORT; INTEGRATE; CIRCUIT; ELECTRODE; ARRAY; EXPAND; SUBSTRATE

Derwent Class: P31; P32; S05; U12; U13

International Patent Class (Main): A61B-000/00; A61F-002/16; A61F-009/00

File Segment: EPI; EngPI

9/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014172377 **Image available**

WPI Acc No: 2001-656605/200175

XRPX Acc No: N01-489484

Micro-contact structure for neuro - prostheses for implantation on nerve tissue has multiple contacts on two dimensional carrier panel which can be folded

Patent Assignee: INTELLIGENT IMPLANTS GMBH (INTE-N); BECKER M (BECK-I); ECKMILLER R (ECKM-I); HUNERMANN R (HUNE-I)

Inventor: BECKER M; ECKMILLER R; HUENERMANN R; HUNERMANN R

Number of Countries: 029 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|----------------|------|----------|----------|
| US 20010037061 | A1 | 20011101 | US 2001771283 | A | 20010126 | 200175 B |
| DE 10020846 | A1 | 20011206 | DE 1020846 | A | 20000428 | 200203 |
| WO 200183025 | A1 | 20011108 | WO 2000EP12713 | A | 20001214 | 200212 |

AU 200131589 A 20011112 AU 200131589 A 20001214 200222

Priority Applications (No Type Date): DE 1020846 A 20000428

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
|-----------|------|-----|----|----------|--------------|

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|----------------|----|--|---|-------------|--|
| US 20010037061 | A1 | | 8 | A61B-005/04 | |
|----------------|----|--|---|-------------|--|

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|-------------|----|--|--|-------------|--|
| DE 10020846 | A1 | | | A61F-002/02 | |
|-------------|----|--|--|-------------|--|

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|--------------|----|---|--|-------------|--|
| WO 200183025 | A1 | G | | A61N-001/05 | |
|--------------|----|---|--|-------------|--|

Designated States (National): AU BR CA IL JP KR MX NZ SG US

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU

MC NL PT SE TR

AU 200131589 A A61N-001/05 Based on patent WO 200183025

Abstract (Basic): US 20010037061 A1

NOVELTY - The micro-contact structure for **neuro - prostheses** has multiple contacts formed on a two dimensional carrier which has at least two regions which can move relative to one another. The regions can assume a base position and an operating position. The size of the micro-contact structure is **collapsed** during surgical transportation to the implant point my moving the relatively movable sections.

USE - For implantation at mammalian muscle tissue, or blood vessels or body organs

ADVANTAGE - Allows ease of positioning implant

DESCRIPTION OF DRAWING(S) - Drawing shows plan view of implant pp; 8 DwgNo 1/4

Title Terms: MICRO; CONTACT; STRUCTURE; NEURO; PROSTHESIS; IMPLANT; NERVE; TISSUE; MULTIPLE; CONTACT; TWO; DIMENSION; CARRY; PANEL; CAN; FOLD

Derwent Class: P31; P34

International Patent Class (Main): A61B-005/04; A61F-002/02; A61N-001/05

International Patent Class (Additional): A61F-002/14

File Segment: EngPI

9/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013159589 **Image available**

WPI Acc No: 2000-331462/200029

XRAM Acc No: C00-100503

XRPX Acc No: N00-249626

Compact high power zinc-air battery, used for cochlear implants and nerve and-or muscle stimulators, has a porous cover to improve air supply and increase energy density

Patent Assignee: ADVANCED BIONICS CORP (ADB-N); MANN FOUND SCI RES ALFRED E (MANN-N); MALTAN A A (MALT-I); SANTOGROSSI T A (SANT-I); SCHULMAN J H (SCHU-I)

Inventor: MALTAN A A; SANTOGROSSI T; SCHULMAN J H; SANTOGROSSI T A

Number of Countries: 002 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|---------------|------|----------|----------|
| FR 2785092 | A1 | 20000428 | FR 9913283 | A | 19991025 | 200029 B |
| US 20020041987 | A1 | 20020411 | US 98105415 | A | 19981023 | 200227 |
| | | | US 98200398 | A | 19981124 | |
| US 20020110715 | A1 | 20020815 | US 98105415 | A | 19981023 | 200256 |
| | | | US 98200398 | A | 19981124 | |
| | | | US 2002117570 | A | 20020405 | |

Priority Applications (No Type Date): US 98105415 P 19981023; US 98200398 A 19981124; US 2002117570 A 20020405

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
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|------------|----|--|----|-------------|--|
| FR 2785092 | A1 | | 28 | H01M-002/04 | |
|------------|----|--|----|-------------|--|

| | | | | | |
|----------------|----|--|--|-------------|-------------------------------------|
| US 20020041987 | A1 | | | H01M-012/06 | Provisional application US 98105415 |
|----------------|----|--|--|-------------|-------------------------------------|

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|----------------|----|--|--|-------------|-------------------------------------|
| US 20020110715 | A1 | | | H01M-012/06 | Provisional application US 98105415 |
|----------------|----|--|--|-------------|-------------------------------------|

Cont of application US 98200398

Abstract (Basic): FR 2785092 A1

NOVELTY - A zinc-air battery has a porous cover (22).

DETAILED DESCRIPTION - AN INDEPENDENT CLAIM is also included for a method of improving air flow into a zinc-air battery by providing the battery with a porous cover (22). Preferred Features: The cover has fine holes (21), permeable membranes and/or small perforated tubes.

USE - The battery is used for nerve, muscle, neuro-muscular, living tissue and functional electrical stimulators, especially in recovery of walking and limb movement functionality for persons having cut or damaged nerves (claimed), or more generally as a primary cell for cochlear implants and neurological stimulators.

ADVANTAGE - The battery has an improved air supply for increasing the energy density to 500-1000 mWh/cm³, so that the battery has a life of 8-16 hr. which corresponds to a cost of 1 per day, and has a compact prismatic shape to allow fitting into spaces which are much smaller and useful than previous batteries.

DESCRIPTION OF DRAWING(S) - The drawing shows a perforated cover for a zinc-air battery.

fine holes (21)

cover (22)

pp; 28 DwgNo 2a/5

Title Terms: COMPACT; HIGH; POWER; ZINC; AIR; BATTERY; COCHLEA; IMPLANT; NERVE; MUSCLE; STIMULATING; POROUS; COVER; IMPROVE; AIR; SUPPLY; INCREASE ; ENERGY; DENSITY

Derwent Class: L03; P32; P34; S05; W04; X16

International Patent Class (Main): H01M-002/04; H01M-012/06

International Patent Class (Additional): A61F-011/04; A61N-001/378;

H01M-002/10; H01M-002/12; H01M-012/04

File Segment: CPI; EPI; EngPI

9/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012125422

WPI Acc No: 1998-542334/199846

Related WPI Acc No: 2001-217976

XRAM Acc No: C98-162893

XRPX Acc No: N98-422208

Medical implant or device fabricated from titanium@ alloy containing molybdenum@ and hafnium - is biocompatible and radiopaque, and has high strength, low modulus, high hardness, and improved corrosion resistance and surface hardening

Patent Assignee: DAVIDSON J A (DAVI-I)

Inventor: DAVIDSON J A

Number of Countries: 023 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| WO 9843550 | A1 | 19981008 | WO 98US5864 | A | 19980324 | 199846 B |
| AU 9868695 | A | 19981022 | AU 9868695 | A | 19980324 | 199910 |
| US 5954724 | A | 19990921 | US 97829327 | A | 19970327 | 199945 |
| EP 1014877 | A1 | 20000705 | EP 98914304 | A | 19980324 | 200035 |
| | | | WO 98US5864 | A | 19980324 | |

Priority Applications (No Type Date): US 97829327 A 19970327

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9843550 A1 E 25 A61B-017/68

Designated States (National): AU CA JP MX

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

AU 9868695 A A61B-017/68 Based on patent WO 9843550

US 5954724 A C22C-014/00

EP 1014877 A1 E A61B-017/68 Based on patent WO 9843550

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Abstract (Basic): WO 9843550 A

A medical implant or device fabricated from a titanium alloy comprises components at least partially fabricated from a metal alloy comprising: (a) titanium; (b) 2-30 wt.% molybdenum; (c) 0-30 wt.% hafnium; and optionally (d) niobium partially substituting for a wt.% of molybdenum. The alloy provides for high-strength and hardness, low elastic modulus, enhanced corrosion resistance and surface hardening of the medical implant or device.

Also claimed is the titanium alloy.

The alloy further includes at most 3 wt.% of iron, chromium and/or silicon. The additional interstitial strengthening of the alloy is achieved by increased levels of oxygen, nitrogen or carbon.

The alloy composition preferably comprises titanium, 6-9 (preferably 7) wt.% molybdenum and 6-9 (preferably 7) wt.% hafnium.

At least a portion of the implant or device is surface hardened by oxidation and nitriding to form a hard, diffusion bonded, conversion surface oxide or nitride, or by oxygen diffusion hardening or nitrogen diffusion hardening, leaving a metallic-type appearance.

At least a portion of a surface of the implant or device is coated with a low friction coating. Alternatively, at least a portion is coated with an agent to improve haemo-compatibility, soft tissue attachment, or bone attachment such as an antibiotic, anti-thrombogenic, pro-thrombogenic, antiinflammatory, morphogenic protein, peptide, growth factor or stem cell. The alloy is hot or cold mechanically worked in order to optimise the grain size, strength, modulus, and toughness of the alloy.

USE - The medical devices that can be manufactured include cardiovascular devices such as vascular and other stents, percutaneous devices, vena cava filters, annuloplasty rings, vascular and other grafts, aneurysm clips and coils, heart valves, artificial hearts and ventricular assist devices, pacemakers and electrical signal carrying leads, power containers, sensors, orthopaedic implants, fracture plates, **compression** hip plates, screws, staples, various internal and external tissue fixation devices, **neuro** devices, dental **implants**, flexible catheters and surgical cables.

ADVANTAGE - The medical implants and devices comprise biocompatible, radiopaque, high-strength, low-modulus, high-hardness titanium base alloy with improved corrosion resistance and surface hardening.

Dwg.0/7

Title Terms: MEDICAL; IMPLANT; DEVICE; FABRICATE; TITANIUM; ALLOY; CONTAIN;
MOLYBDENUM; HAFNIUM; BIOCOMPATIBLE; RADIOPAQUE; HIGH; STRENGTH; LOW;
MODULUS; HIGH; HARD; IMPROVE; CORROSION; RESISTANCE; SURFACE; HARDEN
Derwent Class: B04; D21; D22; M26; P31; P32
International Patent Class (Main): A61B-017/68; C22C-014/00
International Patent Class (Additional): A61F-002/28
File Segment: CPI; EngPI

9/5/6 (Item 6 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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011227317

WPI Acc No: 1997-205220/199719

Related WPI Acc No: 1997-076793; 1998-582509; 1999-589696

XRAM Acc No: C97-065946

XRPX Acc No: N97-169388

Neurovascular bridge implant for relieving pressure between blood vessel and region of brainstem - comprises preconfigured shredded plastic implant or preconfigured thermoplastic implant

Patent Assignee: JANNETTA P J (JANN-I)

Inventor: JANNETTA P J

Number of Countries: 017 Number of Patents: 010

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| EP 766950 | A2 | 19970409 | EP 96307291 | A | 19961004 | 199719 B |
| AU 9668015 | A | 19970410 | AU 9668015 | A | 19961003 | 199724 |

| | | | | | | |
|-------------|----|----------|-------------|---|----------|--------|
| CA 2187142 | A | 19970406 | CA 2187142 | A | 19961004 | 199732 |
| EP 766950 | A3 | 19971001 | | | | 199749 |
| BR 9603999 | A | 19981103 | BR 963999 | A | 19961004 | 199849 |
| KR 98023891 | A | 19980706 | KR 9644146 | A | 19961005 | 199926 |
| AU 716498 | B | 20000224 | AU 9668015 | A | 19961003 | 200020 |
| TW 419384 | A | 20010121 | TW 96112653 | A | 19961016 | 200138 |
| IL 119354 | A | 20011125 | IL 119354 | A | 19961004 | 200215 |
| CA 2187142 | C | 20020709 | CA 2187142 | A | 19961004 | 200254 |

Priority Applications (No Type Date): US 96706537 A 19960905; US 95539341 A 19951005

Cited Patents: No-SR.Pub; 1.Jnl.Ref; FR 2641691; JP 3111056; US 3823705; US 4013078; US 5356431

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|--|------|-----|----|-------------|----------------------------------|
| EP 766950 | A2 | E | 14 | A61F-002/00 | |
| Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE | | | | | |
| AU 9668015 | A | | | A61B-017/00 | |
| CA 2187142 | A | | | A61B-017/00 | |
| BR 9603999 | A | | | A61B-017/00 | |
| KR 98023891 | A | | | A61F-011/02 | |
| AU 716498 | B | | | A61B-017/00 | Previous Publ. patent AU 9668015 |
| TW 419384 | A | | | A61K-038/28 | |
| IL 119354 | A | | | A61F-002/02 | |
| CA 2187142 | C | E | | A61B-017/00 | |

Abstract (Basic): EP 766950 A

A neurovascular bridge implant for relieving the pressure between a blood vessel and a preselected region of the brainstem comprises a preconfigured shredded plastic implant or a preconfigured thermoplastic implant.

Also claimed is a **neurovascular bridge implant** for relieving the pressure from a preselected region of the brainstem within the cranium of a subject having a disorder of the normal neuroendocrine servomechanism, the pressure resulting from the **compression** of the region by a blood vessel, the implant comprises a preconfigured shredded plastic implant or a preconfigured thermoplastic **implant**, the **neuroendocrine** servomechanism being responsive to the pressure relief on the region and the implant maintaining the pressure relief.

USE - The neuroendocrine servomechanism includes the pancreas and the pressure relief ameliorates non-insulin dependent diabetes mellitus.

Dwg.0/17

Title Terms: NEUROVASCULAR; BRIDGE; IMPLANT; RELIEVE; PRESSURE; BLOOD; VESSEL; REGION; BRAIN; STEM; COMPRISE; PRE; CONFIGURATION; SHRED; PLASTIC; IMPLANT; PRE; CONFIGURATION; THERMOPLASTIC; IMPLANT

Derwent Class: A96; D22; P31; P32; P34

International Patent Class (Main): A61B-017/00; A61F-002/00; A61F-002/02; A61F-011/02; A61K-038/28

International Patent Class (Additional): A61B-019/00; A61L-029/00

File Segment: CPI; EngPI

9/5/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011098868

WPI Acc No: 1997-076793/199707

Related WPI Acc No: 1997-205220; 1998-582509

XRAM Acc No: C97-024590

XRPX Acc No: N97-063826

Relieving vascular pressure in brain-stem region partic. to ameliorate non-insulin dependent diabetes mellitus - by accessing and exposing compressed region, lifting vessel and inserting bridge to maintain decompression

Patent Assignee: JANNETTA P J (JANN-I)

Inventor: JANNETTA P J

Number of Countries: 003 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| US 5589183 | A | 19961231 | US 95539341 | A | 19951005 | 199707 B |
| KR 98023891 | A | 19980706 | KR 9644146 | A | 19961005 | 199926 |
| SG 55242 | A1 | 19981221 | SG 9611000 | A | 19961030 | 199929 N |

Priority Applications (No Type Date): US 95539341 A 19951005; US 96706537 A 19960905; SG 9611000 A 19961030

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-------------|------|-----|----|-------------|--------------|
| US 5589183 | A | | 15 | A61F-002/02 | |
| KR 98023891 | A | | | A61F-011/02 | |
| SG 55242 | A1 | | | A61F-002/02 | |

Abstract (Basic): US 5589183 A

To relieve pressure from a region of the brain-stem within the cranium resulting from **compression** of the region by a blood vessel in a patient with a disorder of the normal neuroendocrine servomechanism the region is accessed and exposed, the vessel is lifted, and a **neurovascular bridge implant** is inserted between vessel and region. The region is partic. the right ventrolateral medulla oblongata or part of the tenth cranial nerve, access is by retromastoid craniectomy, exposure by a pericerebellar procedure and lifting by microvascular decompression. The vessel is partic. the basilar, vertebral, and/or anterior or posterior inferior cerebellar artery, giving pulsatile **compression**. The implant is pref. preconfigured and of shredded PTFE or polyurethane with a glass-transition temp. of 20-60 deg. C and a transition band of 8 deg. C, and has shape memory.

USE - Partic. to ameliorate non-insulin-dependent diabetes mellitus where the servomechanism includes the pancreas.

ADVANTAGE - Glucose and insulin neuroendocrine dysfunction can be improved or completely reversed by using decompression early in the development of non-insulin-dependent diabetes.

Dwg.0/10

Title Terms: RELIEVE; VASCULAR; PRESSURE; BRAIN; STEM; REGION; AMELIORATE; NON; INSULIN; DEPEND; DIABETES; MELLITUS; ACCESS; EXPOSE; COMPRESS; REGION; LIFT; VESSEL; INSERT; BRIDGE; MAINTAIN; DECOMPRESS

Derwent Class: A96; D22; P31; P32

International Patent Class (Main): A61F-002/02; A61F-011/02

File Segment: CPI; EngPI

9/5/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

010811146

WPI Acc No: 1996-308099/199631

XRPX Acc No: N96-258931

Venous closure method using electrical stimulation to reduce blood stasis - elevating and transposing muscle and crossing over popliteal vein to provide electrical impulse to innervating nerve to cause muscle contractions and vein compression

Patent Assignee: ANONYMOUS (ANON)

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-----------|------|----------|-------------|------|----------|----------|
| RD 386024 | A | 19960610 | RD 96386024 | A | 19960520 | 199631 B |

Priority Applications (No Type Date): RD 96386024 A 19960520

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|-------------|--------------|
| RD 386024 | A | | 1 | A61N-000/00 | |

Abstract (Basic): RD 386024 A

The method involves **implanting a nerve** electrode over or near an innervating nerve of a transposed muscle e.g. calf muscle. The nerve

electrode has a stimulator connected to feed electrical impulses to the nerve. It causes the muscle to contract and **compress** the popliteal vein.

A sensor is used to sense the diastolic phase of venous blood pressure or flow. The sensor provides a signal to the stimulator to feed a stimulating output pulse to the innervating nerve. During muscle relaxation periods, the blood flows into the popliteal vein. The stimulation pulses occur at a fixed beats per minute. Alternatively the rate is determined by the level of physical activity detected by a piezo-electric crystal. An increase in the level of physical activity causes an increase in the rate of muscle contraction and hence increases the number of compressions of the popliteal vein.

USE/ADVANTAGE - To prevent swelling, ulcers, pain esp. in legs.

Dwg.0/0

Title Terms: VEIN; CLOSURE; METHOD; ELECTRIC; STIMULATING; REDUCE; BLOOD; ELEVATE; TRANSPOSE; MUSCLE; CROSS; VEIN; ELECTRIC; IMPULSE; NERVE; CAUSE; MUSCLE; CONTRACT; VEIN; COMPRESS

Derwent Class: P34; S05

International Patent Class (Main): A61N-000/00

File Segment: EPI; EngPI

9/5/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.

009966035 **Image available**

WPI Acc No: 1994-233748/199428

XRPX Acc No: N94-184900

Implantable electrical lead e.g. for cardiac pulse generator, neural stimulator and implantable sensor - has biocompatible, electrically insulating sheath covering pre-compressed, helical-coil wire core, with electrode electrically connected to distal end of core

Patent Assignee: COHEN D M (COHE-I)

Inventor: COHEN D M

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5330521 | A | 19940719 | US 92905771 | A | 19920629 | 199428 B |

Priority Applications (No Type Date): US 92905771 A 19920629

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|--------------|
| US 5330521 | A | | 10 | A61N-001/05 | |

Abstract (Basic): US 5330521 A

The lead includes a wire core formed in a helical coil having pre-compression, and having distal and proximal ends. A layer of an electrically conductive material is formed around the wire core so that there is electrical continuity between the wire core and the metal layer. A biocompatible, electrically insulating sheath covers the wire core, with a lead connector electrically connected to the proximal end of the wire core, and an electrode electrically connected to the distal end of the wire core. The wire core may have various cross-sectional configurations which increase the current conducting area of the wire core without increasing its outside diameter.

Alternatively, the electrical lead includes a wire core having a cross-sectional area which differs over the length of the core to enhance the fatigue resistance of the electrical lead. In yet another embodiment, the wire core may be wound in a helix having different pitches in different sections of the core.

ADVANTAGE - Has low electrical resistance as well as good resistance to repeated stresses to which cardiac lead is exposed.

Dwg.3/7

Title Terms: IMPLANT; ELECTRIC; LEAD; CARDIAC; PULSE; GENERATOR; NEURAL; STIMULATING; IMPLANT; SENSE; BIOCOMPATIBLE; ELECTRIC; INSULATE; SHEATH; COVER; PRE; COMPRESS; HELICAL; COIL; WIRE; CORE; ELECTRODE; ELECTRIC; CONNECT; DISTAL; END; CORE

Derwent Class: P34; S05
International Patent Class (Main): A61N-001/05
File Segment: EPI; EngPI

9/5/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

009768239 **Image available**

WPI Acc No: 1994-048090/199406

Related WPI Acc No: 1989-178223; 1991-022071; 1991-237782; 1993-036114;
1993-036168; 1993-036169; 1993-036384; 1994-034784; 1994-248922;
1995-199739; 1997-350244

XRAM Acc No: C94-021744

**Cell culturing capsules used as therapeutic implant devices - are prepd.
by co-extruding viable cell culture and polymeric soln., and sealing
tubular extrudate**

Patent Assignee: UNIV BROWN RES FOUND (UYBR-N)

Inventor: AEBISCHER P; WAHLBERG L

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5283187 | A | 19940201 | US 87121626 | A | 19871117 | 199406 B |
| | | | US 90461999 | A | 19900108 | |
| | | | US 91638759 | A | 19910108 | |

Priority Applications (No Type Date): US 91638759 A 19910108; US 87121626 A
19871117; US 90461999 A 19900108

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|----------|--------------------------------|
| US 5283187 | A | | 11 | C | CIP of application US 87121626 |
| | | | | | CIP of application US 90461999 |
| | | | | | CIP of patent US 4892538 |
| | | | | | CIP of patent US 5158881 |

Abstract (Basic): US 5283187 A

A cell culturing capsule comprises a tubular, semipermeable, polymeric membrane encasing a viable cell culture, the membrane being formed by (i) co-extruding a viable cell culture and a polymeric soln. through a common extrusion port having at least two concentric bores to form a tubular extrudate having a polymer outer coating encasing the cell culture, the culture being extruded through an inner bore and the polymeric soln. through an outer bore and a pressure differential being maintained between the culture and the soln. during coextrusion to impede solvent diffusion from the soln. into the culture, the soln. and culture being chosen so that coagulation of the polymeric soln. occurs as it and cell culture are extruded through the port; and (ii) sealing the tubular extrudate to form at least one isolated tubular cell compartment.

USE/ADVANTAGE - The capsules have use as therapeutic implant devices. Thus, they may be used to **implant neurotransmitter** - secreting cells into a target region within a subject's brain to treat a neurological deficiency such as Parkinson's disease, or to construct artificial organs capable of secreting other biological factors such as hormones. Also they may be used in bio-reactors and other in vitro culturing systems, for the prodn. of drugs and other useful biological materials. They may be in the form of strings of cell capsules. The multicompart ment form ensures that breaks in the tubular membrane can be contained to individual cell capsules. In using this design to deliver biologically active factors for therapeutic purposes, the string of cell capsules can be cooled, twisted or otherwise deposited in various shapes to provide a device and **compact** structure for implantation. The capsules can be readily retrieved, if necessary, following implantation, unlike spherical microcapsules.

In an example, system (10) for producing tubular extrudate (12) has extrusion head (14) having a first (innermost) bore (16), a second outer bore (18) and opt. a third (outermost) bore (20). The system

includes cell suspension supply (22), pump (24), polymer soln. supply (26), pump (28), and opt., flush soln. supply (30) and pump (32), and outer flowing quenchant supply (34) and pump (36). Pump elements can be controlled by automated controller (38). The system can include quenchant bath (40) and blower (41). Sealing element (42) includes motorised wheels (44A and 44B), having protuberances (46), which during rotation pinch and seal the extrudate. Retraction means (48) can be used to periodically retract the inner bore so as to interrupt the cell suspension flow; or controller (38) can vary the pressure applied to pump (24) (and/or 28) to create periodic interruption.

Dwg.1/8

Title Terms: CELL; CULTURE; CAPSULE; THERAPEUTIC; IMPLANT; DEVICE;
PREPARATION; CO; EXTRUDE; VIABLE; CELL; CULTURE; POLYMERISE; SOLUTION;
SEAL; TUBE; EXTRUDE

Derwent Class: A96; B04; D16

International Patent Class (Main): C12N-011/04

International Patent Class (Additional): C12N-005/00; C12N-011/12

File Segment: CPI

| Set | Items | Description |
|-----|---------|---|
| S1 | 58481 | NEURO? OR NEURA? OR NERVOUS OR NERV? |
| S2 | 134250 | PROSTHESIS OR PROSTHESES OR IMPLANT? |
| S3 | 1922287 | COMPACT? OR FOLD? OR ROLL? OR COMPRESS? OR COLLAPS? |
| S4 | 1312 | S1(S)S2 |
| S5 | 40 | S4(S)S3 |
| S6 | 242 | S1(2N)S2 |
| S7 | 10 | S6(S)S3 |
| S8 | 10 | IDPAT (sorted in duplicate/non-duplicate order) |
| S9 | 10 | IDPAT (primary/non-duplicate records only) |

?show files

File 347:JAPIO Oct 1976-2002/Jul(Updated 021104)

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File 350:Derwent WPIX 1963-2002/UD,UM &UP=200273

(c) 2002 Thomson Derwent

File 371:French Patents 1961-2002/BOPI 200209

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8/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

014375138

WPI Acc No: 2002-195841/200225

XRAM Acc No: C02-060550

New implantable device comprising a biodegradable conduit and cells transformed with an expression cassette having a promoter directing the expression of a polynucleotide encoding a growth factor, for stimulating nerve cell growth

Patent Assignee: UNIV TEXAS SYSTEM (TEXA); EVANS G R D (EVAN-I); FAN Z (FANZ-I); PATRICK C W (PATR-I); SCHMIDT M (SCHM-I)

Inventor: EVANS G R D; FAN Z; PATRICK C W; SCHMIDT M

Number of Countries: 096 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|----------------|------|----------|----------|
| WO 200207749 | A2 | 20020131 | WO 2001US23176 | A | 20010720 | 200225 B |
| AU 200177112 | A | 20020205 | AU 200177112 | A | 20010720 | 200236 |
| US 20020137706 | A1 | 20020926 | US 2000220086 | A | 20000721 | 200265 |
| | | | US 2001910681 | A | 20010720 | |

Priority Applications (No Type Date): US 2000220086 P 20000721; US 2001910681 A 20010720

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|-----------|------|--------|----------|--------------|
|-----------|------|--------|----------|--------------|

| | | | | |
|--------------|----|---|----------------|--|
| WO 200207749 | A2 | E | 80 A61K-038/00 | |
|--------------|----|---|----------------|--|

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

| | | | |
|--------------|---|-------------|------------------------------|
| AU 200177112 | A | A61K-038/00 | Based on patent WO 200207749 |
|--------------|---|-------------|------------------------------|

| | | | |
|----------------|----|-------------|---------------------------------------|
| US 20020137706 | A1 | A61K-048/00 | Provisional application US 2000220086 |
|----------------|----|-------------|---------------------------------------|

Abstract (Basic): WO 200207749 A2

NOVELTY - A new implantable device comprising:

(a) a biodegradable conduit having at least two openings and a passage connecting the openings; and

(b) cells transformed with an expression cassette comprising a promoter active in eukaryotic cells that directs the expression of a polynucleotide encoding a growth factor, where the cells are disposed within the passage.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method for regenerating nerve tissue in vivo comprising:

(a) providing a device comprising a biodegradable conduit having at least two openings and a passage connecting the openings, and helper cells transformed with an expression cassette comprising a promoter active in the cells, that directs the expression of a polynucleotide encoding a growth factor, where the cells are disposed within the passage; and

(b) implanting the device in a subject such that each of the openings are adjacent to nerve tissues, where the nerve tissues are stimulated to regenerate into the passage by the growth factor produced by the cells; and

(2) a kit comprising an implantable device.

USE - The device is useful for stimulating nerve cell growth and regeneration of nerve tissues. Twenty-one Sprague Dawley rats with right sciatic nerve defect were implanted with a 12 mm poly L-lactic acid (PLLA) conduits. Animals were anesthetized and maintained by a 0.4 cc intramuscular injection of a premixed solution containing 64 mg/ml ketamine HCl, and 0.07 mg/ml atropine sulfate. Incision was made from the greater trochanter to the midcalf distally. The sciatic and posterior tibial nerves were exposed by a muscle splitting incision. Sciatic nerve was divided near its origin to create an adequate distal segment. The 12 mm conduits were placed into this

defect using 10-0 nylon sutures under microsurgical technique. The nerve was sutured into the conduit such that 1 mm of each nerve end remained within the tubular biodegradable scaffold. Walking track analysis was performed on all animals after conduit placement monthly through 16 weeks. Time schedule was chosen to allow adequate time for nerve regeneration. Changes in the SFI correlate with changes in the paw print and are indicative of nerve regeneration. Medical and lateral gastrocnemius muscle was harvested at 6 and 16 weeks, and weight to assess nerve reinnervation. At the conclusion of 6 and 16 weeks, sections of the conduit/grafted and distal nerve from the same rats used for functional evaluation were harvested, fixed with 3% glutaraldehyde, embedded in epoxy resin and stained with toluidine blue. The average molecular weight of the PLLA conduits was 35500 (76% of the initial values), and after 8 weeks in phosphate buffered saline (PBS), molecular weight decreased to 43% of the day 0 value. All ~~conduits remained flexible~~ without breakage. No conduit elongated during the 4 months of placement. No severe inflammatory reaction could be identified and no neuromas were clinically apparent. Histomorphology demonstrated axonal migration and nerve tissue advancement through entire conduit and into the distal nerve stump at 6 and 16 weeks.

pp; 80 DwgNo 0/8

Title Terms: NEW; IMPLANT; DEVICE; COMPRISE; BIODEGRADABLE; CONDUIT; CELL; TRANSFORM; EXPRESS; CASSETTE; PROMOTE; DIRECT; EXPRESS; POLYNUCLEOTIDE; ENCODE; GROWTH; FACTOR; STIMULATING; NERVE; CELL; GROWTH

Derwent Class: B04; D16; D22

International Patent Class (Main): A61K-038/00; A61K-048/00

File Segment: CPI

8/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012125422

WPI Acc No: 1998-542334/199846

Related WPI Acc No: 2001-217976

XRAM Acc No: C98-162893

XRPX Acc No: N98-422208

Medical implant or device fabricated from titanium@ alloy containing molybdenum@ and hafnium - is biocompatible and radiopaque, and has high strength, low modulus, high hardness, and improved corrosion resistance and surface hardening

Patent Assignee: DAVIDSON J A (DAVI-I)

Inventor: DAVIDSON J A

Number of Countries: 023 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| WO 9843550 | A1 | 19981008 | WO 98US5864 | A | 19980324 | 199846 B |
| AU 9868695 | A | 19981022 | AU 9868695 | A | 19980324 | 199910 |
| US 5954724 | A | 19990921 | US 97829327 | A | 19970327 | 199945 |
| EP 1014877 | A1 | 20000705 | EP 98914304 | A | 19980324 | 200035 |
| | | | WO 98US5864 | A | 19980324 | |

Priority Applications (No Type Date): US 97829327 A 19970327

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9843550 A1 E 25 A61B-017/68

Designated States (National): AU CA JP MX

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

AU 9868695 A A61B-017/68 Based on patent WO 9843550

US 5954724 A C22C-014/00

EP 1014877 A1 E A61B-017/68 Based on patent WO 9843550

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Abstract (Basic): WO 9843550 A

A medical implant or device fabricated from a titanium alloy

comprises components at least partially fabricated from a metal alloy comprising: (a) titanium; (b) 2-30 wt.% molybdenum; (c) 0-30 wt.% hafnium; and optionally (d) niobium partially substituting for a wt.% of molybdenum. The alloy provides for high-strength and hardness, low elastic modulus, enhanced corrosion resistance and surface hardening of the medical implant or device.

Also claimed is the titanium alloy.

The alloy further includes at most 3 wt.% of iron, chromium and/or silicon. The additional interstitial strengthening of the alloy is achieved by increased levels of oxygen, nitrogen or carbon.

The alloy composition preferably comprises titanium, 6-9 (preferably 7) wt.% molybdenum and 6-9 (preferably 7) wt.% hafnium.

At least a portion of the implant or device is surface hardened by oxidation and nitriding to form a hard, diffusion bonded, conversion surface oxide or nitride, or by oxygen diffusion hardening or nitrogen diffusion hardening, leaving a metallic-type appearance.

At least a portion of a surface of the implant or device is coated with a low friction coating. Alternatively, at least a portion is coated with an agent to improve haemo-compatibility, soft tissue attachment, or bone attachment such as an antibiotic, anti-thrombogenic, pro-thrombogenic, antiinflammatory, morphogenic protein, peptide, growth factor or stem cell. The alloy is hot or cold mechanically worked in order to optimise the grain size, strength, modulus, and toughness of the alloy.

USE - The medical devices that can be manufactured include cardiovascular devices such as vascular and other stents, percutaneous devices, vena cava filters, annuloplasty rings, vascular and other grafts, aneurysm clips and coils, heart valves, artificial hearts and ventricular assist devices, pacemakers and electrical signal carrying leads, power containers, sensors, orthopaedic implants, fracture plates, compression hip plates, screws, staples, various internal and external tissue fixation devices, **neuro** devices, dental **implants**, **flexible** catheters and surgical cables.

ADVANTAGE - The medical implants and devices comprise biocompatible, radiopaque, high-strength, low-modulus, high-hardness titanium base alloy with improved corrosion resistance and surface hardening.

Dwg.0/7

Title Terms: MEDICAL; IMPLANT; DEVICE; FABRICATE; TITANIUM; ALLOY; CONTAIN;
MOLYBDENUM; HAFNIUM; BIOCOMPATIBLE; RADIOPAQUE; HIGH; STRENGTH; LOW;
MODULUS; HIGH; HARD; IMPROVE; CORROSION; RESISTANCE; SURFACE; HARDEN
Derwent Class: B04; D21; D22; M26; P31; P32
International Patent Class (Main): A61B-017/68; C22C-014/00
International Patent Class (Additional): A61F-002/28
File Segment: CPI; EngPI

8/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010572913

WPI Acc No: 1996-069866/199608

XRAM Acc No: C96-022801

XRPX Acc No: N96-058683

**Flexible , non-conducting, artificial, implantable nerve plate -
with several electrodes, for registering and stimulating nerve signals,
for use as neuro - prosthesis .**

Patent Assignee: FRAUNHOFER GES FOERDERUNG ANGEWANDTEN (FRAU)

Inventor: MEYER J; STIEGLITZ T

Number of Countries: 018 Number of Patents: 006

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| DE 19525570 | A1 | 19960118 | DE 1025570 | A | 19950713 | 199608 B |
| WO 9602298 | A1 | 19960201 | WO 95EP2754 | A | 19950713 | 199611 |
| JP 10502552 | W | 19980310 | WO 95EP2754 | A | 19950713 | 199820 |
| | | | JP 96504688 | A | 19950713 | |
| US 5897583 | A | 19990427 | WO 95EP2754 | A | 19950713 | 199924 |

| | | | | | | |
|-----------|----|----------|-------------|---|----------|--------|
| EP 928212 | A1 | 19990714 | US 97765742 | A | 19970318 | |
| | | | EP 95925870 | A | 19950713 | 199932 |
| | | | WO 95EP2754 | A | 19950713 | |
| EP 928212 | B1 | 20021002 | EP 95925870 | A | 19950713 | 200272 |
| | | | WO 95EP2754 | A | 19950713 | |

Priority Applications (No Type Date): DE 4424697 A 19940713
 Cited Patents: 02Jnl.Ref; US 3738368; US 3955560; WO 9320887

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|------|-----|----|-------------|----------------------------|
| DE 19525570 | A1 | | 5 | A61B-005/04 | |
| WO 9602298 | A1 | G | 24 | A61N-001/05 | |
| Designated States (National): JP US | | | | | |
| Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| JP 10502552 | W | | 15 | A61N-001/05 | Based on patent WO 9602298 |
| US 5897583 | A | | | A61N-001/05 | Based on patent WO 9602298 |
| EP 928212 | A1 | G | | A61N-001/05 | Based on patent WO 9602298 |
| Designated States (Regional): DE FR GB NL | | | | | |
| EP 928212 | B1 | G | | A61N-001/05 | Based on patent WO 9602298 |
| Designated States (Regional): DE FR GB NL | | | | | |

Abstract (Basic): DE 19525570 A

A flexible, non-conducting, artificial, **implantable nerve** plate with E modulus, 3,000-1,000 N/mm² and thickness less than 50 microns, for placing and joining between the fascicles of a nerve bundle, has several electrodes on each side of the plate, connected in the interior of the plate with a cable integrated with the nerve plate, with this cable attachable to a control unit receiving signals.

USE - Application is in neuro-prostheses, to restore damaged body functions by registering nerve signals and stimulating nerves in the peripheral nerve system. Use includes as an auditory brain stem implant and as implant in the visual cortex.

ADVANTAGE - The nerves are not irritated or traumatised.

Dwg.0/2

Title Terms: FLEXIBLE; NON; CONDUCTING; ARTIFICIAL; IMPLANT; NERVE; PLATE; ELECTRODE; REGISTER; STIMULATING; NERVE; SIGNAL; NEURO; PROSTHESIS
 Derwent Class: A96; D22; P31; P32; P34; S05
 International Patent Class (Main): A61B-005/04; A61N-001/05
 International Patent Class (Additional): A61F-002/00; A61F-002/02
 File Segment: CPI; EPI; EngPI

8/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009187708 **Image available**

WPI Acc No: 1992-315147/199238

XRFX Acc No: N92-241172

Tool for implantable neural electrode - comprises single structure electrode with outer substrate of semi-rigid body-tissue compatible insulating material with central spine from which number of fingers extend orthogonally to contact nerve

Patent Assignee: MEDTRONIC INC (MEDT)

Inventor: KLEPINSKI R J; RICE M

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5143067 | A | 19920901 | US 90536524 | A | 19900607 | 199238 B |

Priority Applications (No Type Date): US 90536524 A 19900607

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|--------------|
| US 5143067 | A | | 10 | A61B-005/04 | |

Abstract (Basic): US 5143067 A

The electrode system for **implanting** on **nerve** tissue having an

outside dia. includes an implantable electrode having a generally cylindrical body with a number of **flexible** circumferentially directed elements and having an electrically conductive surface. A channel has an interior size greater than the outside dia. of the nerve tissue whereby the number of directed elements may be spread to position the implantable electrode on the channel and has the electrode positioned on it. An ejector coupled to the channel ejects the implantable electrode from the channel.

USE/ADVANTAGE - For medical use partic. for monitoring or treating nerve problems. Large open surface provides for enhanced nutrient access.

Dwg. 4/6

Title Terms: TOOL; IMPLANT; NEURAL; ELECTRODE; COMPRISE; SINGLE; STRUCTURE; ELECTRODE; OUTER; SUBSTRATE; SEMI; RIGID; BODY; TISSUE; COMPATIBLE; INSULATE; MATERIAL; CENTRAL; SPINE; NUMBER; FINGER; EXTEND; ORTHOGONAL; CONTACT; NERVE

Derwent Class: P31; P34; S05

International Patent Class (Main): A61B-005/04

International Patent Class (Additional): A61N-001/05

File Segment: EPI; EngPI

8/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008253002 **Image available**

WPI Acc No: 1990-140003/199019

XRPX Acc No: N90-108561

Bidirectional helical electrode for nerve stimulation - encircles nerve to deliver electrical simulating signals or block nerve conduction or sense evoked potentials

Patent Assignee: HUNTINGTON MEDICAL RES INST (HUNT-N)

Inventor: BALLARA L A; BULLARA L A

Number of Countries: 032 Number of Patents: 010

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| CA 2000543 | A | 19900412 | CA 2000543 | A | 19891012 | 199019 B |
| WO 9003824 | A | 19900419 | | | | 199019 |
| US 4920979 | A | 19900501 | US 88256702 | A | 19881012 | 199022 |
| AU 8944883 | A | 19900501 | | | | 199029 |
| EP 438510 | A | 19910731 | EP 89912081 | A | 19891010 | 199131 |
| JP 4503312 | W | 19920618 | JP 89511268 | A | 19891010 | 199231 |
| | | | WO 89US4519 | A | 19891010 | |
| EP 438510 | A4 | 19920826 | EP 89912081 | A | | 199523 |
| EP 438510 | B1 | 19960828 | EP 89912081 | A | 19891010 | 199639 |
| | | | WO 89US4519 | A | 19891010 | |
| DE 68927057 | E | 19961002 | DE 627057 | A | 19891010 | 199645 |
| | | | EP 89912081 | A | 19891010 | |
| | | | WO 89US4519 | A | 19891010 | |
| CA 2000543 | C | 20010213 | CA 2000543 | A | 19891012 | 200112 |

Priority Applications (No Type Date): US 88256702 A 19881012

Cited Patents: FR 2525110; US 4573481; US 4590946; US 4602624; US 4750499; FR 2038813; US 4026300; 1.Jnl.Ref

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9003824 A

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Designated States (Regional): AT BE CH DE FR GB IT LU NL OA SE

EP 438510 A

Designated States (Regional): BE CH DE FR GB IT LI NL SE

JP 4503312 W A61N-001/04 Based on patent WO 9003824

EP 438510 B1 E 10 A61N-001/05 Based on patent WO 9003824

Designated States (Regional): BE CH DE FR GB IT LI NL SE

DE 68927057 E A61N-001/05 Based on patent EP 438510

Based on patent WO 9003824

Abstract (Basic): CA 2000543 A

A circumneutral electrode assembly has a pair of spaced-apart and oppositely directed helical portions which can be opened by an insertion tool to fit the assembly over a peripheral or cranial nerve. One or more conductive electrodes on the inner surface of the helical portions intimately contact the nerve surface to deliver electrical stimulating signals, or alternatively to block nerve conduction or to sense evoked potentials.

The surgically implanted assembly is stable in position on the nerve, and is installed with a minimum of nerve manipulation and possible resulting trauma.

ADVANTAGE - Greatly simplified installation, particularly in nerve which is deeply recessed in overlying muscle or arteries. (21pp Dwg.No.1/9)

Title Terms: BIDIRECTIONAL; HELICAL; ELECTRODE; NERVE; STIMULATING; ENCIRCLING; NERVE; DELIVER; ELECTRIC; SIMULATE; SIGNAL; BLOCK; NERVE; CONDUCTING; SENSE; POTENTIAL

Derwent Class: P34; S05

International Patent Class (Main): A61N-001/04; A61N-001/05

File Segment: EPI; EngPI

| Set | Items | Description |
|---------------|--------------|--|
| S1 | 58481 | NEURO? OR NEURA? OR NERVOUS OR NERV? |
| S2 | 134250 | PROSTHESIS OR PROSTHESES OR IMPLANT? |
| S3 | 844517 | FLEXIBL? OR FLEXIBILIT? OR ELASTIC? OR NONRIGID? OR NON()R- IGID? |
| S4 | 58477 | S1 NOT NEUROPROSTHES? |
| S5 | 245 | S1(2N)S2 OR NEUROPROSTHES? |
| S6 | 5 | S5(S)S3 |
| S7 | 5 | IDPAT (sorted in duplicate/non-duplicate order) |
| S8 | 5 | IDPAT (primary/non-duplicate records only) |

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File 347:JAPIO Oct 1976-2002/Jul(Updated 021104)

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File 350:Derwent WPIX 1963-2002/UD,UM &UP=200273

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File 371:French Patents 1961-2002/BOPI 200209

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